

Please amend the claims as follows:

40. (Twice Amended) The apparatus of claim [39] 43, wherein the electrical property is AC impedance.

43. (Amended) An apparatus for making an array of materials by electrochemical deposition and for screening members of the array of materials for an electrical property, [the array of materials having a plurality of members,] the apparatus comprising:

a substrate having predefined regions for receiving the members of the array of materials and a detector for measuring the electrical property of each of the members of the array of materials;

spatially addressable electrodes located adjacent the predefined regions, the spatially addressable electrodes electrically connected to the predefined regions and to the detector;

and

at least one other electrode, the at least one other electrode and the spatially addressable electrodes adapted to apply an independently variable electrical potential between each of the predefined regions and the at least one other electrode so that when the substrate and the at least one other electrode contact[s] a solution containing ions, the ions undergo chemical reaction at the predefined regions forming the array of materials, wherein [in which] at least two members of the array of materials [are] have different compositions and all members of the array of materials are inorganic.

45. (Amended) The apparatus of claim 43, wherein [the] ends of the spatially addressable electrodes are disposed on a surface of the substrate.

46. (Amended) The apparatus of claim 43, wherein the substrate is a resistive material that provides a substantially continuous electrical potential that varies between adjacent predefined regions.

47. (Amended) The apparatus of claim 43, further comprising reference electrodes having ends located adjacent [the] ends of the spatially addressable electrodes;

wherein the spatially addressable electrodes, the at least one other electrode and the reference electrodes are adapted to apply the independently variable electrical potential between each of the predefined regions and the at least one other electrode.

50. (Amended) The apparatus of claim 43, wherein the ions undergo redox reaction at the predefined regions forming the array of materials [in which at least two members of the array of materials are different].

51. (Amended) An apparatus for making an array of materials by electrochemical deposition, the array of materials having a plurality of members, the apparatus comprising:

a first chamber having an inlet for supplying a first ionic solution to the first chamber and an outlet for removing the first ionic solution from the first chamber;

a second chamber having an inlet for supplying a second ionic solution to the second chamber and an outlet for removing the second ionic solution from the second chamber;

a permeable membrane separating the first chamber from the second chamber, the permeable membrane allowing ions to migrate between the first chamber and the second chamber;

a substrate located in the first chamber, the substrate having predefined regions for receiving members of the array of materials;

working electrodes having ends located adjacent the predefined regions, the ends of the working electrodes electrically connected to the predefined regions;

reference electrodes having ends located adjacent the ends of the working electrodes; and

a counter electrode located in the second chamber;

wherein the working electrodes, the reference electrodes and the counter electrode are adapted to apply an independently variable electrical potential between each of the predefined regions and the counter electrode so that ions undergo chemical reaction at the predefined regions of the substrate to form the array of materials in which at least two members of the array of materials have [are] different compositions.